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Stafford et al.(10) **Pub. No.: US 2020/0159018 A1**(43) **Pub. Date: May 21, 2020**(54) **IMAGE RENDERING RESPONSIVE TO
USER ACTIONS IN HEAD MOUNTED
DISPLAY***G06F 3/01* (2006.01)*A63F 13/212* (2006.01)(52) **U.S. Cl.**CPC *G02B 27/017* (2013.01); *G02B 27/0093*(2013.01); *G06F 3/013* (2013.01); *A63F**13/212* (2014.09); *G06F 3/012* (2013.01);*G06F 3/038* (2013.01); *G02B 2027/014*(2013.01); *G02B 2027/0187* (2013.01); *A63F**2300/105* (2013.01); *A63F 2300/1087*(2013.01); *A63F 2300/6661* (2013.01); *G02B**2027/0138* (2013.01)(71) Applicant: **Sony Interactive Entertainment Inc.**,
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(US)(21) Appl. No.: **16/773,935**(22) Filed: **Jan. 27, 2020****Related U.S. Application Data**(63) Continuation of application No. 15/900,759, filed on
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Mar. 12, 2014, now Pat. No. 9,897,805.(60) Provisional application No. 61/832,755, filed on Jun.
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(57)

ABSTRACT

Methods, systems, and computer programs are presented for rendering images on a head mounted display (HMD). One method includes operations for tracking, with one or more first cameras inside the HMD, the gaze of a user and for tracking motion of the HMD. The motion of the HMD is tracked by analyzing images of the HMD taken with a second camera that is not in the HMD. Further, the method includes an operation for predicting the motion of the gaze of the user based on the gaze and the motion of the HMD. Rendering policies for a plurality of regions, defined on a view rendered by the HMD, are determined based on the predicted motion of the gaze. The images are rendered on the view based on the rendering policies.

